



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/680,401	10/05/2000	Seinosuke Mizuno	198224USOX	1884

22850 7590 09/19/2002

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

NGUYEN, KIMBERLY T

ART UNIT	PAPER NUMBER
----------	--------------

1774

DATE MAILED: 09/19/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/680,401

Applicant(s)

MIZUNO ET AL.

Examiner

Kimberly T. Nguyen

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6 and 8-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This action is in response to the amendment submitted on July 10, 2002.

Acknowledgement is made of new claims 9-19 and of the cancellation of claims 2 and 7.

Due to Applicants' amendments, the previous rejection of claims 1, 4, and 6 under 35 USC 112 are withdrawn. Due to Applicants' amendments, the previous rejection of claims 1-4 and 6-8 under 35 USC 102(b) are withdrawn; however, Takahashi and Wright are still used to show the instant invention.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 102

Claims 1, 3-4, 6, and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi^h et al., U.S. Pat. No. 4,891,267.

Takahashi shows steel cord fibers (metal wire) coated with a heat-treated adhesive layer (column 7, lines 22-33) to reinforce rubber materials (column 1, lines 12-23 and column 10, lines 7-14). Takahashi shows that the adhesive layer comprises a halogenated rubber latex compound (claims 13-14). Takahashi shows that the adhesive contains chloroprene rubber latex, vinylpyridine-styrene-butadiene terpolymer latex (column 8, lines 53-59), and sulfur (column 12, lines 53-62). Takahashi further shows that the steel fibers coated with tan adhesive layer is surrounded by a rubber material (elastomeric extrusion) of rubber such as rubber used in tires (elastomeric molding) for its high strength, durability, and stability (column 1, lines 12-23). Although the material in Takahashi is not said to be a shrinkage control material, it would

Art Unit: 1774

inherently have this feature as the material has the same components and is used in the same manner.

Claims 1 and 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright, U.S. Pat. No. 3,951,723.

Wright shows steel and brass-plated steel fibers and cords for use in reinforcing rubber products (elastomeric molding) wherein the brass-plated steel fibers have an adhesive layer coating (column 10, lines 10-62). Wright further shows that the adhesive comprises a halo-olefin-based adhesive (column 1, lines 52-68). Although the material in Wright is not said to be a shrinkage control material, it would inherently have this feature as the material has the same components and is used in the same manner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-12 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al., U.S. Pat. No. 4,891,267.

Takahashi is relied upon as above for claim 1 and 6. Takahashi does not show the thicknesses of the adhesive layer as in instant claims 11-12 and 18-19.

However, such ranges are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the ranges, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result

Art Unit: 1774

of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. ranges) fails to render claims patentable in the absence of unexpected results. All of the aforementioned limitations are result effective as they control the level of mechanical strength and adhesiveness of the cords. As such, they are optimizable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the cords with the limitations of ranges since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

¹⁴⁶
Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al., U.S. Pat. No. 4,891,267 in view of Yoshikawa et al., U.S. Pat. No. 6,193,835 B1.

Takahashi is relied upon as above for claims 1, 6, 9, and 10.

Takahashi does not show that the elastomeric extrusion comprises an ethylene-propylene-diene ternary copolymer as in instant claim 13. Yoshikawa shows a rubber-based composite material comprising a metal substrate and a rubber layer comprising copolymers of ethylene and propylene with diene compound which is laminated to the metal substrate (column 2, lines 23-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to surround the metal cords of Takahashi with an elastomeric rubber layer of copolymers of ethylene and propylene with diene compound since it is known that such an elastomer has good adhesion to metals and can be widely applied to the production of rubber-based materials such as tires, conveyor belts, and hoses.

Though Takahashi shows that a chloroprene rubber latex adhesive (column 8, lines 53-59), Takahashi does not show a chlorosulfonated polyethylene rubber adhesive as in instant

Art Unit: 1774

claims 14-17. Yoshikawa shows that one or more combinations of chlorosulfonated polyethylene rubber, chlorinated rubber, and chloroprene can be used because of its good adhesion to metals (column 2, line 35 to column 3, line 9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use chlorosulfonated polyethylene rubber with chlorinated rubber since these are functional equivalents and are known to have good adhesion to metals.

Takahashi does not show the thicknesses as in instant claim 12. However, such ranges are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the ranges, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. ranges) fails to render claims patentable in the absence of unexpected results. All of the aforementioned limitations are result effective as they control the level of mechanical strength and adhesiveness to the cords and fibers. As such, they are optimizable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the cords with the limitations of ranges since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

Applicants' argument filed July 10, 2002 have been fully considered but they are not persuasive.

On pages 4-5, Applicants argue that Takahashi and Wright differ from the instant invention because they do not contain, rely on, or use a *resilient* metal wire because they

Art Unit: 1774

comprise steel fibers which cannot function as a shrinkage control material. Examiner is not persuaded. The term "resilient" is a relative term which renders the claim indefinite. Further, Takahashi and Wright show metal fibers and cords in rubber composite materials as reinforcements and thus, would help to provide resiliency to the materials such as rubber tires.

Applicants also argue that the inventions of Takahashi and Wright cannot function as or be used for shrinkage control materials. In response to Applicants' argument that the instant invention is directed towards shrinkage control materials, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. It does not matter what the intended use is in an article claim. The combination of the inventions in Takahashi, Wright, and Yoshikawa shows Applicants' invention without any structural differences. Thus, such a combination would be capable of "providing resiliency and shrinkage control," which is the intended use of Applicants' invention. The prior art structures of Takahashi, Wright, and Yoshikawa thus meet the claims of Applicants' disclosure.

Conclusion

Applicant's AMENDMENT necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 1774

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

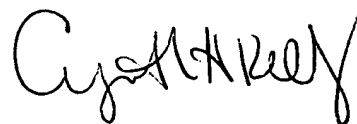
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly T. Nguyen whose telephone number is (703) 308-8176. The examiner can normally be reached on Monday to Friday, except on every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Kimberly T. Nguyen
Examiner
September 16, 2002

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

A handwritten signature in black ink, appearing to read 'Cynthia H. Kelly', written in a cursive style.